

Figure 1: Verification of differential expression of human DAX-1 by quantitative RT-PCR

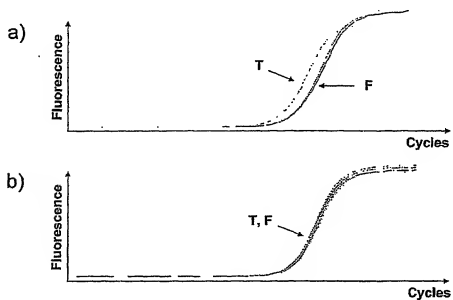


Figure 2: Verification of differential expression of human DAX-1 by quantitative RT-PCR

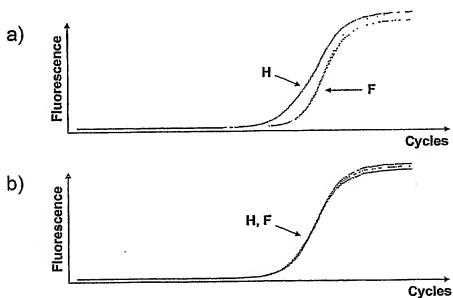


Figure 3: Analysis of absolute mRNA expression of DAX-1

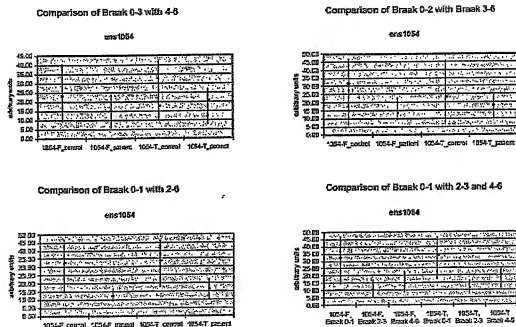


Figure 4: SEQ ID NO. 1: amino acid sequence of human DAX-1 protein

Length: 470 aa

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1  MAGENHQWQG  SILYNMLMSA  KQTRAAPEAP  ETRLVDQCWG  CSCGDEPGVG
51  REGLLGGRNV  ALLYRCCFCG  KDHPRQGSIL  YSMLTSAKQT  YAAPKAPEAT
101  LGPCWGCSCG  SDPGVGRAGL  PGGRPVALLY  RCCFCGEDHF  RQGSILYSLL
151  TSSKQTHVAP  AAPEARPGGA  WWDRSYFAQR  PGGKEALPGG  RATALLYRCC
201  FCGEDHPQQG  STLYCVPTST  NQAQAAPEER  PRAPWWDTS  GALRPVALKS
251  PQVVCEAASA  GLLKTLRFVK  YLPCFQVLPL  DQQLVLVRNC  WASLLMLELA
301  QDRLQFETVE  VSEPSMLQKI  LITRRRETGG  NEPLFVPTLQ  HELAPPAEAR
351  KVPASQVQA  IKCFLSKCWS  LNIISTKEYAY  LKGTVLFNPD  VPGLQCVKYI
401  QGLQWGTQQI  LSEHTRMTHQ  GPHDRFIELN  STLFLLRFIN  ANVIAELFFR
451  PIIGTVSMDD  MMLEMLCTKI

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Figure 5: SEQ ID NO. 2: human DAX-1 cDNA nucleotide sequence

Length: 2022 bp

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1   GAGCTCCAC   GCTGCTGTTT   TTCCATTTTC   AGCTTTTAA   GAGCACCCGC
51  CCCTTCGAAC   CACCGAGGTC   ATGGGCGAAC   ACACCGGAGC   GCAGACCGCG
101 CCCCCCGCA   CACACCGCCC   GCCTCCGCGC   CCTTGCCAG   ACCGAGGCGG
151 CCGACGCGCC   TGGTGGCGCG   CTAGGTATAA   ATAGGTCCCA   GGAGGCGAGC
201 ACTGGGCAGA   ACTGGGCTAC   GGGCGCCGCG   GGCCATGGCG   GGCGAGAACC
251 ACCAGTGGCA   GGGCAGCATC   CTCTACAACA   TGCTTATGAG   CGCGAAGCAA
301 ACGCGCGCG   CTCTGAGGTC   TCCAGAGACG   CGGCTGGTGG   ATCAGTGTG
351 GGGCTGTTG   TGGCGCGATG   AGCCCCGGGT   GGGCAGAGAG   GGGCTGCTGG
401 GCGGGCGGAA   CGTGGCGCTC   CTGTACCGCT   GCTGCTTTTG   CGGTAAAGAC
451 CACCCACGGC   AGGGCAGCAT   CCTCTACAGC   ATGCTGACGA   GCGCAAAGCA
501 AAGCTACGCG   GCACCGAAGG   CGCCGAGGCG   GACGCTGGGT   CCGTGCTGGG
551 GCTGTTCGTG   CGGCTCTGAT   CCCGGGGTGG   GCAAGCGGG   GCTTCCGGGT
601 GGGCGGCGCG   TGGCACTCCT   GTACCGCTGC   TGCTTTTGTG   GTGAAGACCA
651 CCCGCGGCAG   GGCAGCATCC   TCTACAGCTT   GCTCACTAGC   TCAAAGCAA
701 CGCACGTGGC   TCCGGCAGCG   CCGCAGGCAC   GGCCAGGGGG   CGCGTGGTGG
751 GACCGCTCCT   ACTTCGCGCA   GAGGCCAGGG   GGTAAAGAGG   CGCTACCAAG
801 CGGGCGGGCC   ACGGCCTCTT   TGTACCGCTG   CTGCTTTTGC   GGTGAAGACC
851 ACCCGCAGCA   GGGCAGCACC   CTCTACTGG   TGCCACGAG   CACAAATCAA
901 GCGCAGGCG   CTCGGGAGGA   GCGGCCGAGG   GCCCCTGGT   GGGACACCTC
951 CTCGTGGTGG   CTGCGGCCGG   TGGCGCTCAA   GAGTCCACAG   GTGGTCTGGG
1001 AGCGACGCTC   AGCGGGCGTG   TTGAAGACGC   TGCGCTTCGT   CAAGTACTTG
1051 CCCTGCTTCC   AGGTGCTGCC   CCGTGACCAG   CAGCTGGTGC   TGGTGCSCAA
1101 CTGCTGGGG   TCCCTGCTCA   TGCTTGAGCT   GGCCCAGGAC   CGCTTGCACT
1151 TCGAGACTGT   GGAAGTCTCG   GAGCCACGCA   TGCTGCAGAA   GATCTCAACC
1201 ACCAGGCGCG   GCGAGACCGG   GGGCAACGAG   CCACTGCCCG   TGCCCAACGT
1251 GCAGCACCAT   TTGGCACCCG   CGCGGAGGCG   CAGGAAGGTG   CCCTCCGCTC
1301 CCCAGGTCCA   AGCCATCAAG   TGTCTTCTTT   CCAAAATGCT   GAGTCTGAAC
1351 ATCAGTACCA   AGGAGTAGCG   CTACCTCAAG   GGGACCGTGC   TCTTTAACCC
1401 GGACGTGCCG   GGCTGCACT   GCGTGAAGTA   CATTGAGGGA   CTCCAGTGGG
1451 GAACTCAGCA   AATACTCAGT   GAACACACCA   GGATGACGCA   CCAAGGGCCC
1501 CATGACAGAT   TCATCGAATC   TAATAGTACC   CTTTTCCTGC   TGAGATTATC
1551 CAATGCCAAT   GTCATTGCTG   AACTGTCTCT   CAGGCCCATC   ATCGGCGACG
1601 TCAGCATGGA   TGATATGATG   CTGGAATATG   TCTGTACAAA   GATATAAAGT
1651 CATGTGGGCC   ACACAAGTGC   AGTAGTGCAG   TTCACCATGA   GGAAGAATA
1701 AAGAGCTGTG   GGCAAAAGAG   TGTAAAATAT   TTTAAAATAA   ACTTTCTTAA
1751 TATTTTTACA   TGCAGAGTAT   TTTGATCTTC   AATTAAGAA   ATAAATTTAT
1801 TCCAGCACA   GTCAAAATT   TCTCTGTTC   ATAGTTAAAG   AAGACATTGT
1851 CCAACAGGTA   GCATAGCTCT   GTACATCTTT   TAAAAAATAA   ATCGCAGGGT
1901 ACTAGTATA   TAAGCTATTT   TCACAAGCGC   AGCAATTTC   TGGAACCTGC
1951 TCAATCAA   TTTGTACATA   TTGTATAAT   AAATTTTAA   GTCTTAACCTA
2001 TTAATTGAT   TGA AAAAAGC   TT

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**Figure 6: SEQ ID NO. 3: nucleotide
sequence of human
DAX-1 coding sequence**

Length: 1413 bp

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1   ATGGCGGGCG AGAACCACCA GTGGCAGGGC AGCATCCTCT ACAACATGCT
51  TATGAGCGCG AAGCAAACGC GCGCGGCTCC TGAGGCTCCA GAGACGCGGC
101 TGGTGGATCA GTGTGGGGC GTTTCGTGCG GCGATGAGCC CGGGGTGGGC
151 AGAGAGGGGC TGCTGGGGCG GCGGAACGTG GCGCTCCTGT ACCGCTGCTG
201 CTTTTGCGGT AAAGACCACC CACGGCAGGG CAGCATCCTC TACAGCATGC
251 TGACGAGCGC AAAGCAAACG TACGCGGCAC CGAAGGCGCC CGAGGCGACG
301 CTGGGTCCGT GCTGGGGCTG TTCGTGCGGC TCTGATCCCG GGGTGGGCAG
351 AGCGGGGGCTT CCGGGTGGGC GGGCCGTGGC ACTCCTGTAC CGTGTCTGCT
401 TTTGTGGTGA AGACCAACCG CGGCAGGGCA GCATCCTCTA CAGCTTGCTC
451 ACTAGCTCAA AGCAAACGCA CGTGGCTCCG GCAGCGCCCG AGGCACGGCC
501 AGGGGGCGCG TGGTGGGACC GCTCCTACTT CGCGCAGAGG CCAGGGGGTA
551 AAGAGGCGCT ACCAGGCGGG CGGGCCACGG CGCTTCTGTA CCCTGCTGTC
601 TTTTGGGGTG AAGACCACCC GCAGCAGGGC AGCAACCTCT ACTGCGTGCC
651 CACGAGCACA AATCAAGCGC AGGCGGCTCC GGAGGAGCGG CCGAGGGCCC
701 CCTGGTGGGA CACTCCTCT GGTGCGCTGC GGCCGCTGCG GCTCAAGAGT
751 CCACAGGTGG TCTGCGAGGC AGCCTCAGCG GGCTCTGTGA AGACGCTGCG
801 CTTCTGCAAG TACTTGCCCT GCTTCCAGGT GCTGCCCTTG GACCAGCAG
851 TGGTGCTGGT GCGCAAATCG TGGCGCTCCC TGCTCATGCT TGAGCTGGCC
901 CAGGACCCTG TCAGTTCGCA GACTGTGGAA GTCTCGGAGC CCAGCATGCT
951 GCAGAAGATC CTCACCACCA GGCGGCGGGA GACCGGGGCG AACGAGCCAC
1001 TGCCCGTGCC CACGCTGCAG CACCATTTGG CACCGCCGGC GGAGGCGCAGG
1051 AAGGTGCCCT CGGCTCCCA GGTCCAAGCC ATCAAGTGCT TTCTTTCCAA
1101 ATGCTGGAGT CTGAACATCA GTACCAAGGA GTACGCCTAC CTCAGGGGGA
1151 CCGTGCTCTT TAACCCGGAC GTGCCGGGCC TGCAAGTGGT GAAGTACATT
1201 CAGGGACTCC AGTGGGGAAC TCAGCAAATA CTCAGTGAAC ACACCAAGAT
1251 GACGCACCAA GGGCCCCATG ACAGATTTCAT GCAACTTAAT AGTACCCTTT
1301 TCCTGCTGAG ATTCAATCAAT GCCAATGTCA TTGCTGAAGT GTTCTTCAGG
1351 CCATCATCGC GCACAGTCAG CATGGATGAT ATGATGCTGG AAATGCTCTG
1401 TACAAAGATA TAA

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Figure 7: Alignment of DAX-1 primers with human DAX-1 cDNA, SEQ ID NO. 2

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1 TACCAAGGAGTACGCCTACCTCA 23
  |||
1356 TACCAAGGAGTACGCCTACCTCA 1378
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20 TGCTCTTTAACCCGGACGTG 1
  |||
1388 TGCTCTTTAACCCGGACGTG 1407
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Figure 8 :

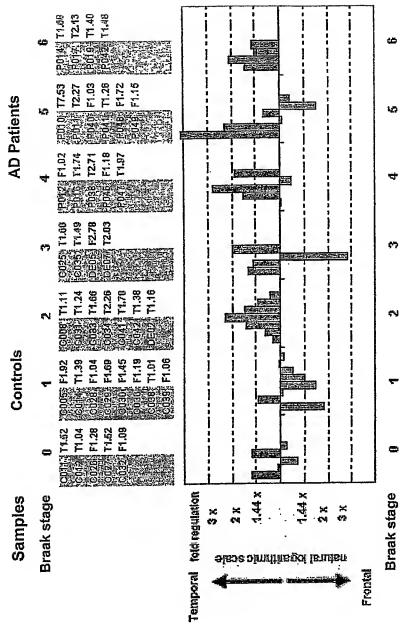
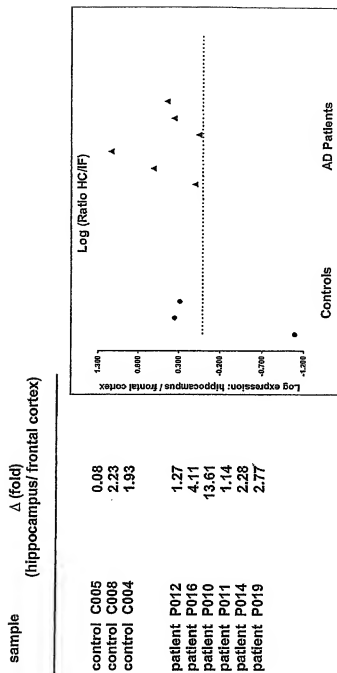


Figure 9 :



**Figure 10: Western Blot of total human brain extracts
labeled with anti-DAX-1 antibodies**

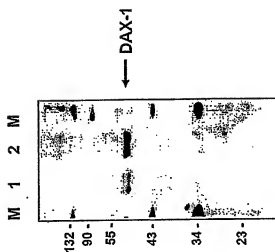
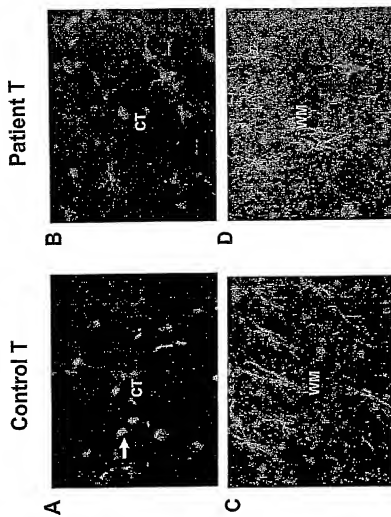


Figure 11: Images of human brain sections labeled with anti-DAX-1 antiserum and with DAPI



**Figure 12: Immunofluorescence analysis of
DAX-1 protein in neuroglioma cells**

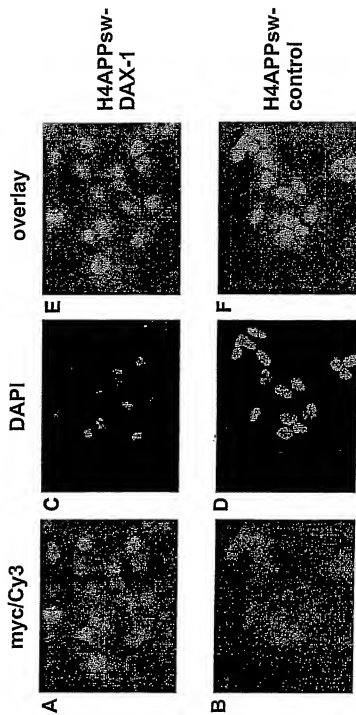


Figure 13: Effect of trophic factor deprivation on DAX-1 over-expressing cells

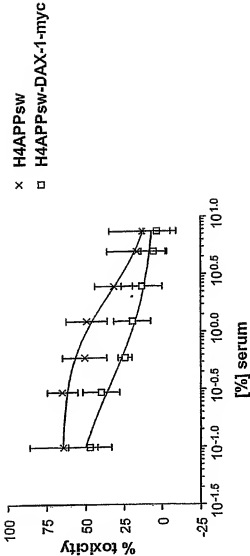
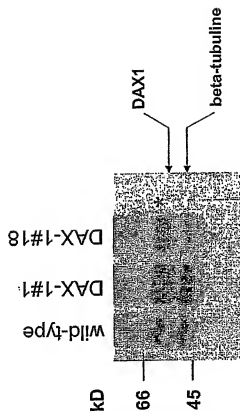


Figure 14: DAX-1 Protein expression in transgenic flies



**Figure 15: DAX-1 Protein expression in the retina
of adult flies**

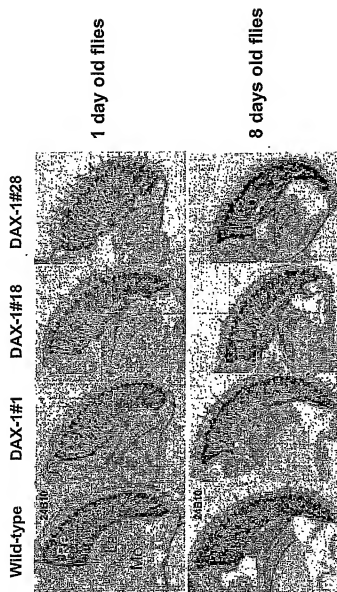
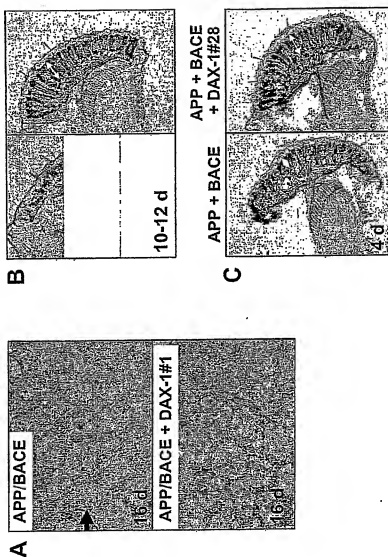


Figure 16: DAX-1 rescues photoreceptor cell degeneration induced by APP/BACE



**Figure 17: Thioflavin S positive amyloid plaques
in DAX-1 expressing flies**

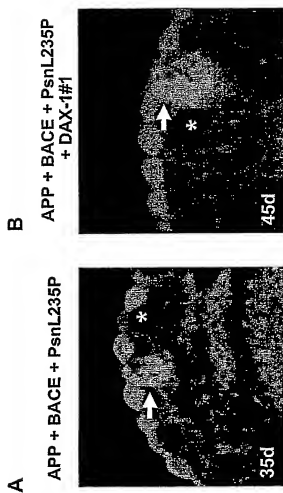


Figure 18: DAX-1 rescues photoreceptor cell degeneration induced by TAU

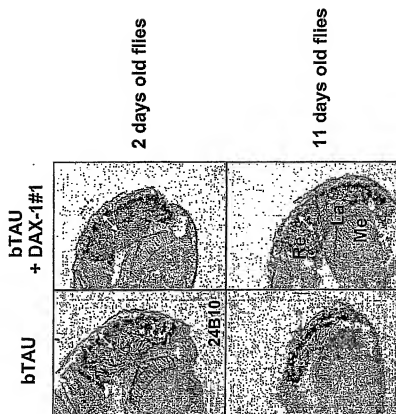


Figure 19: Generation of DAX-1 transgenic mice

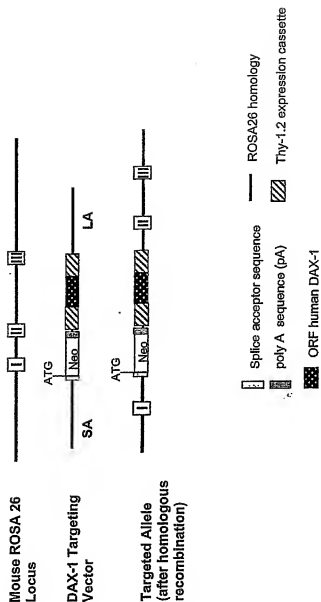


Figure 20: DAX-1 targeted ES cell clones

